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LETTER REGARDING SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION REPORT FOR SITE 5 MCRD PARRIS ISLAND SC
6/4/2012
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C
PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director
*Promoting and protecting the health of the public and the environment*



June 4, 2012

Commanding Officer
NAVFAC Southeast
ATTN: Mr. Charles Cook, P.E.
PO Box 30
Ajax Street North, Bldg 135
Jacksonville, Florida 32212

and

Commanding General
NREAO
ATTN: Ms. Lisa Donohoe
PO Box 5028
Parris Island, SC 29905

RE: Review of Draft Remedial Investigation Report for Site 5
Marine Corp Recruit Depot (MCRD)
Parris Island
SC6 170 022 762

Dear Mr. Cook and Ms. Donohoe:

The Division of Waste Management of the South Carolina Department of Health and Environmental Control (Department) completed the review of the above referenced document received March 29, 2012. The Department reviewed the document with respect to applicable sections of the South Carolina Hazardous Waste Management Regulations (SCHWMR). Based on this review the Department has comments. Please see attached engineering, hydrogeology, and risk assessment comments.

The Department's review is based on the information presented by MCRD to date; any information found to be contradictory may require further action. If you have any questions regarding this issue, please contact me at (803) 896-4218.

Sincerely,

Meredith Amick, P.E., Environmental Engineer
Corrective Action Engineering Section
Division of Waste Management

cc:

Lila Llamas, EPA Region 4
Annie Gerry, Hydrogeology
Priscilla Wendt, SCDNR
Russell Berry, EQC Region 8, Beaufort
Peggy Churchill, TtNUS

Engineering Memo
Prepared by Meredith Amick
Marine Corp Recruit Depot (MCRD)
May 15, 2012

1. The Site 5 soil data should be screened with the newly agreed upon (per the April 23-24, 2012 Partnering Team Meeting) MCAS background data set if it can be proven that the site soils are similar to those used in the development of the background data set. Additionally if the Site 5 outfall (data taken as part of the Site 14 investigation) is to be discussed and used for investigation/remediation purposes at Site 5, please screen this "process area outfall" with the "non process area outfall" data from Site 14. It is the Department's understanding that the team will be discussing how to use the "non process area outfall" data for screening purposes in the near future. Revise the document accordingly. Please note this new screening of the soil and sediment data may result in different COCs/COPCs at which time the Department may have further comments.
2. Please provide the disposal manifest reference in Section 3.2.11.
3. The Department recalls while the work for the Site 5 RI Workplan was being carried out in the field there was a mention of finding either petroleum stained soil or soil with petroleum odors. Please discuss this finding further. Additionally discuss if this finding is related to Tanks 94 and 97 or OWS 22 shown on Figure 3-1.
4. Please update tag maps per Comment #1. Tag maps should show exceedances of background and applicable screening criteria.
5. Please update the Decision Rules for Establishing COPCs in Section 6.1.2.3 per Comment #1.
6. If the outfall associated with Site 5 is going to be addressed in this document both sediment and storm water data for this outfall should be provided and screened appropriately. See comment #1.
7. The Department reiterates the following comment made to the Site 5 RI SAP March 21, 2011. "Because of the landfilling activities that occurred on top of the paint disposal area, this site will need to be treated as a landfill and regardless of the level of assessment will require Land Use Controls (at a minimum notation in the Base Master Plan so that a dig permit request would be required prior to any construction activities). As discussed in previous team meetings, the Department would support the use of a presumptive remedy at this site."

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**MEMORANDUM**

**TO:** Meredith Amick, P.E., Engineering Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

**FROM:** Annie M. Gerry, Hydrogeologist
Federal Facilities Groundwater Section
Division of Waste Management
Bureau of Land and Waste Management

**DATE:** May 31, 2012

**RE:** Marine Corps Recruit Depot
SC6 170 022 762

Review of Draft- Remedial Investigation Report for Site 5-Former Paint Shop Disposal Area, Marine Corps Recruit Depot (MCRD), Parris Island, South Carolina, dated March 2012

The above referenced document has been reviewed with respect to the conditions of the Federal Facility Agreement (FFA) that the Department entered into with the Navy and EPA Region 4 in January 2005. Site 5 is a disposal area where dried paint wastes from Structure 177 and nearby structures were deposited at the edge of the Beaufort River from the 1930s to 1960s. During previous investigations, the area was found to be impacted by volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals. The purpose of this document is to discuss field activities that took place in September 2011 to determine the nature and extent of contamination in both soil and groundwater and if contaminates are migrating, to assess human health risks, and to determine the vertical and horizontal extent of fill material associated with Site 5.

Based on review of this document, the following comments have been generated.

1. **Figure 3-4: Groundwater Potentiometric Surface Map- September 2011:** The text did not clearly state whether this map was constructed using water level measurements that were recorded at low or high tide. Based on the location of Site 5, and the knowledge that this site is tidally influenced, the Navy might want to consider creating two potentiometric surface maps by obtaining water level measurements during low and high tide.

2. **Page 5-2, Section 5.1.3-Water Solubility:** The text states that the water solubility of non-polar organic chemicals decreases as salinity increases, and the water solubility of polar chemicals increases as salinity increases. However, on Page 5-3 under the section Henry's Law Constant, the text reads, "*Because the chemicals of interest at Site 5 are classified as non-polar, the Henry's Law constants for these chemicals are expected to increase when salinity increases.*"

   This seems contradictory to what was mentioned previously in Section 5.1.3. Please clarify.

Should you have any questions regarding this memo, please contact me via email at GerryAM@dhec.sc.gov or by phone at (803) 896-4018.

**MEMORANDUM**

TO: Meredith Amick, Environmental Engineering Associate
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

FROM: Kent Krieg, Risk Assessor
Corrective Action Engineering Section
Division of Waste Management
Bureau of Land and Waste Management

DATE: June 4, 2012

RE: Marine Corps Recruit Depot
Parris Island, South Carolina
Document:
Remedial Investigation Report – Site 5, Former Paint Shop Disposal Area Response to Comments
Dated March 2012

The above referenced document by Tetra Tech NUS, Inc. has been reviewed. The Department has the following risk-related comments:

**General Comments:**

1. The Department is unclear which step the ecological risk assessment (ERA) for sediment data stopped or whether a Scientific Management Decision Point was reached. As presented in the document, sediment data was collected and screened to ecological criteria and presented in 4.2.2 – Sediment and Figure 4-7. There is no further discussion of the potential risks to ecological receptors from these exceedances. Please provide further details to the ERA by following the 8-step process established in USEPA's ERAGS.

**Specific Comments:**

2. 4.1.4 MCRD Parris Island Background Data Evaluation, pg. 4-2.
As presented, the Department does not agree with the calculated 95% UCL background values combining the MCRD and MCAS data sets. See Amick Comment #1.

3. 6.2.2 Exposure Point Concentration - *third bullet*, pg. 6-13.
As stated in USEPA Region 4 guidance, "the arithmetic average of the wells in the highly concentrated area of the plume" can be used as the EPC for groundwater risk calculations. Although this is an acceptable means to determine the EPC for groundwater, the State does not concur with the use of all the monitoring wells at Site 5 in the averaging calculations. Using the maximum concentration value as the EPC may be more effective since this approach does not require defining the maximum area of concentration within the plume for each contaminant. As stated in RAGS, the maximum concentration may be used to place an

upper bound on exposure. Although this will add to the conservative nature of the risk assessment, it will assist the risk managers in defining groundwater COCs and, ultimately, cleanup at the site.

Please be sure to make note of the various tables, calculations, and recommendations throughout the document that are dependent upon the EPC value.

4. 6.4.3.2 Results of the Risk Characterization, pg. 6-28.
To assist in future review and the risk manager's decision making process, the Department requests that the risks for each receptor be listed in the results section if it falls within or above the ILCR USEPA risk management range of $10^{-6}$ to $10^{-4}$ (i.e. Cumulative ICLRs for construction workers exposed to surface soil and groundwater ($3x10^{-6}$), and…).

If you need any further information, feel free to contact me at (803) 896-4262.